PATENT

ATTORNEY DOCKET NO.: KCX-479 (17366)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kou-Chang Liu

Serial No.: 10/036,735

Filed: December 21, 2001

Title: Method For the Application of Hydrophobic Chemicals to Tissue Webs

Examiner: Peng, Kuo Liang

Art Unit: 1712

Deposit Acct. No.: 04-1403

Client ID: 22827

LETTER

Commissioner of Patents P. O. Box 1450 Alexandria, VA 22313-1450

Dear Sirs:

As discussed with Examiner Peng, Applicants understand that page 15 of the above captioned application is missing from the Examiner's file. If Applicants failed to originally include page 15 with the application papers, any such failed submission was done inadvertently.

Applicants respectfully request that page 15 as enclosed be included with the above captioned application. Including page 15 with the application adds no new matter to the application.

Should Examiner Peng have any further questions, he is invited and encouraged to telephone the undersigned. Applicants also would like to express their gratitude to Examiner Peng for the courtesy he has extended in resolving this issue.

Respectfully submitted,

Timothy A. Cassidy

DORITY & MANNING, P.A.

P.O. Box 1449

Greenville, SC 29602

(864) 271-1592

(864) 233-7342

5

10

15

20

25

30

15

web or, alternatively, can be applied between a pair of adjacent layers. As described above, the composition containing the additives of the present invention is generally applied after the web is formed. The composition can be applied while the web is dry or while the web is wet.

The process of the present invention can be used to apply compositions and chemical additives to numerous and various different types of products. For most applications, however, the present invention is directed to applying chemical additives to paper products, particularly wiping products. Such products include facial tissues and bath tissues that have a basis weight of less than about 60 gsm, particularly from about 20 gsm to about 60 gsm, and more particularly from about 25 gsm to about 45 gsm. The tissue web can be made exclusively of pulp fibers or, alternatively, can contain pulp fibers mixed with other fibers.

In one embodiment, a hydrophobic composition is applied to a tissue web in accordance with the present invention while preserving the wettability and absorbency characteristics of the web. For example, many chemical additives that can be applied to tissue products are hydrophobic and thus when applied to a bath tissue across the surface of the tissue can adversely interfere with the ability of the tissue to become wet and disperse when being disposed of after use. For instance, various polysiloxane softening agents when applied to a tissue can render a tissue unacceptable for use as a bath tissue due to the hydrophobic nature of the polysiloxane, although improving the softness and feel of the tissue.

In accordance with one embodiment of the present invention, however, hydrophobic compositions such as polysiloxanes can be applied to tissue webs and other paper products without adversely interfering with the wettability of the web. In this embodiment of the present invention, the hydrophobic composition is applied to the web in a discontinuous manner. For instance, in accordance with the present invention, the hydrophobic composition can be applied evenly across the